

YARD MACHINES

by **MTD**

OPERATOR'S MANUAL



22" Side Discharge
High Wheel
Lawn Mower

Model Series 580



IMPORTANT: READ SAFETY RULES AND INSTRUCTIONS CAREFULLY

Warning: This unit is equipped with an internal combustion engine and should not be used on or near any unimproved forest-covered, brush-covered or grass-covered land unless the engine's exhaust system is equipped with a spark arrester meeting applicable local or state laws (if any). If a spark arrester is used, it should be maintained in effective working order by the operator. In the State of California the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal lands. A spark arrester for the muffler is available through your nearest engine authorized service dealer or contact the service department, P.O. Box 368022 Cleveland, Ohio 44136-9722.

MTD PRODUCTS INC. P.O. BOX 368022 CLEVELAND, OHIO 44136-9722

SECTION 1: FINDING LAWN MOWER MODEL NUMBER

This Operator's Manual is an important part of your new lawn mower. It will help you assemble, prepare and maintain your mower properly. Please read and understand what it says.

Before you start to prepare your equipment for its first use, please locate the model plate and copy the information from it in the space provided below. The information on the model plate is very important if you need help from your dealer or the MTD customer support department.

- Every lawn mower has a model plate. You can locate it by standing behind the unit in the operating position and looking down at the rear of the deck.
- The model plate will look like Figure 1.

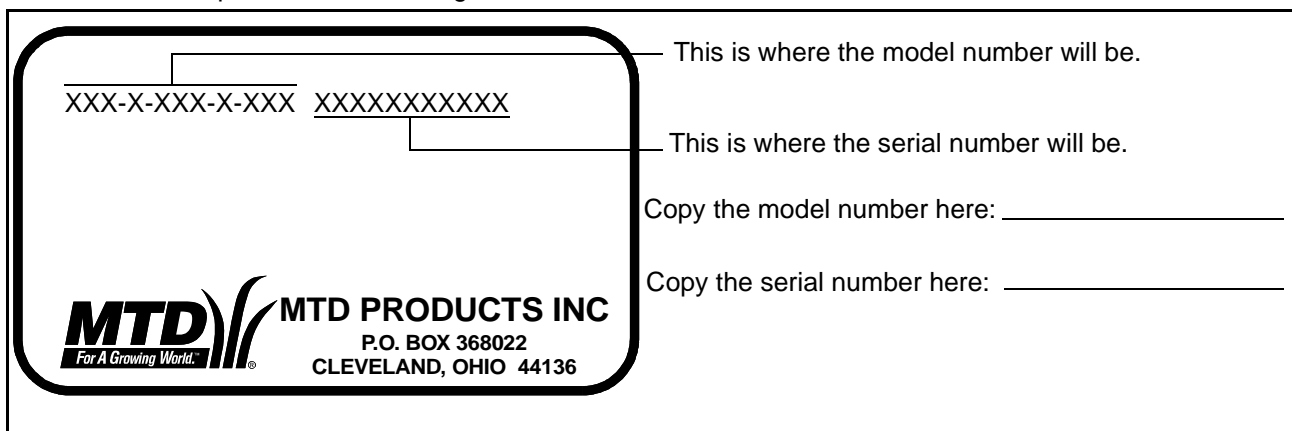


Figure 1

SECTION 2: CALLING CUSTOMER SUPPORT

- **Locate your mower's model number and serial number** — Record this information in the space provided. To find your unit's specific model number and serial number, see the earlier section.
- If you are having difficulty assembling this product or if you have any questions regarding the controls, operation or maintenance of this unit, please call the Customer Support Department.
- Customer Support can be reached by dialing:
1- (330) 220-4MTD
(4683)
or
1- (800)-800-7310
- Although both the model and the serial numbers are important for expediting service, you will be asked to enter only your ***lawn mower's serial*** number before your call can be processed.

SECTION 3: IMPORTANT SAFE OPERATION PRACTICES



WARNING: This symbol points out important safety instructions which, if not followed, could endanger the personal safety and/or property of yourself and others. Read and follow all instructions in this manual before attempting to operate your lawn mower. Failure to comply with these instructions may result in personal injury. When you see this symbol, heed its warning.



WARNING: The Engine Exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.



WARNING: Your lawn mower was built to be operated according to the rules for safe operation in this manual. As with any type of power equipment, carelessness or error on the part of the operator can result in serious injury. This lawn mower is capable of amputating hands and feet and throwing objects. Failure to observe the following safety instructions could result in serious injury or death.

1. General Operation

- Read this operator's manual carefully in its entirety before attempting to assemble this machine. Read, understand, and follow all instructions on the machine and in the manual(s) before operation. Be completely familiar with the controls and the proper use of this machine before operating it. Keep this manual in a safe place for future reference and for ordering replacement parts.
- Your rotary mower is a precision piece of power equipment, not a plaything. Therefore, exercise extreme caution at all times. Your unit has been designed to perform one job: to mow grass. Do not use it for any other purpose.
- Never allow children under 14 years old to operate a power mower. Children 14 years old and over should only operate mower under close parental supervision. Only responsible individuals who are familiar with these rules of safe operation should be allowed to use your mower.
- Keep the area of operation clear of all persons, particularly small children and pets. Stop engine when they are in the vicinity of your mower to help prevent blade contact or thrown object injury. Although the area of operation should be completely cleared of foreign objects, an object may have been overlooked and could be accidentally thrown by the mower in any direction and cause serious personal injury to the operator or any others allowed in the area.
- Wear sturdy, rough-soled work shoes and close-fitting slacks and shirts. Shirts and pants that cover the arms and legs and steel-toed shoes are recommended. Do not wear loose fitting clothes or jewelry. They can be caught in moving parts. Never operate a unit in bare feet, sandals, slippery or light weight (e.g. canvas) shoes.
- Always wear safety glasses or safety goggles during operation or while performing an adjustment or repair, to protect eyes from foreign objects that may be thrown from the machine in any direction.
- Thoroughly inspect the area where the equipment is to be used. Remove all stones, sticks, wire, bones, toys and other foreign objects which could be picked up and thrown by the mower in any direction and cause serious personal injury to the operator or any others allowed in the area. Plan your mowing pattern to avoid discharge of material toward roads, sidewalks, bystanders and the like. To help avoid a thrown objects injury, keep children, bystanders and helpers at least 75 feet from the mower while it is in operation.
- Do not put hands or feet near or under rotating parts. Keep clear of discharge opening at all times as the rotating blade can cause injury.
- Many injuries occur as a result of the mower being pulled over the foot during a fall. Do not hang on to the mower if you are falling; release the handle immediately.
- Never pull the mower toward you while you are walking. If you must back the mower away from a wall or obstruction first look down and behind, and then follow these steps:
 1. Step back from the mower to fully extend your arms.
 2. Be sure you are well balanced with sure footing.
 3. Pull the mower back slowly, no more than half way toward you.
 4. Repeat these steps as needed.
- Do not operate the mower while under the influence of alcohol or drugs.
- Do not engage the self-propelled mechanism on units so equipped while starting engine.
- The blade control handle is a safety device. Never attempt to bypass its operation. Doing so makes the safety device inoperative and may result in personal injury through contact with the rotating blade. The blade control handle must operate easily in both directions and automatically return to the disengaged position when released.
- Never operate the mower in wet grass. Always be sure of your footing. A slip and fall can cause

serious personal injury. Keep a firm hold on the handle and walk, never run. If you feel you are losing your footing, **RELEASE THE BLADE CONTROL HANDLE IMMEDIATELY** and the blade will stop rotating within three seconds.

- Mow only in daylight or good artificial light.
- Stop the blade when crossing gravel drives, walks or roads.
- If the equipment should start to vibrate abnormally, stop the engine and check immediately for the cause. Vibration is generally a warning of trouble.
- Shut the engine off and wait until the blade comes to a complete stop before removing the grass catcher or unclogging the chute. The cutting blade continues to rotate for a few seconds after the engine is shut off. Never place any part of the body in the blade area until you are sure the blade has stopped rotating.
- Never operate mower without proper guards, grass catcher, plates or other safety protective devices in place.
- Muffler and engine become hot and can cause a burn. Do not touch.
- Only use accessories approved for this machine by the manufacturer. Read, understand, and follow all instructions provided with the approved accessory.
- If situations occur which are not covered in this manual, use care and good judgment. Contact your dealer for assistance. Telephone 1-800-800-7310 for the name of your nearest dealer.
- Do not adjust the throttle control while the engine is still running.

2. Slope Operation

For your safety, use the slope gauge included as part of this manual to measure slopes before operating this unit on a sloped or hilly area. If the slope is greater than 15 degrees as shown on the slope gauge, do not operate this unit on that area or serious injury could result.

Do:

- Mow across the face of slopes; never up and down. Exercise extreme caution when changing direction on slopes.
- Watch for holes, ruts, hidden objects, or bumps. Tall grass can hide obstacles.
- Always be sure of your footing. A slip and fall can cause serious personal injury. If you feel you are losing your balance release the blade control handle immediately and the blade will stop in less than 3 seconds.

Do not:

- Do not mow near drop-offs, ditches or embankments. The operator could lose footing or balance.
- Do not mow slopes greater than 15 degrees as shown on the slope gauge.
- Do not mow on wet grass. Reduced footing could cause slipping.

3. Children

Tragic accidents can occur if the operator is not alert to the presence of children. Children are often attracted to the mower and the mowing activity. Never assume that children will remain where you last saw them.

- Keep children out of the mowing area and under the watchful care of a responsible adult other than the operator.
- Be alert and turn mower off if a child enters the area.
- Before and while moving backwards, look behind and down for small children or other objects.
- Never allow children under age 14 to operate the mower. Children 14 years of age and above should read and understand the operation instructions and safety rules in this manual.
- Use extreme care when approaching blind corners, shrubs, trees, or other objects that may obscure your vision of a child or hazard.

4. Service

- Use extreme care in handling gasoline and other fuels. They are extremely flammable and the vapors are explosive.
- Use only an approved gasoline container.
- Never remove gas cap or add fuel while the engine is running. Allow engine to cool at least two minutes before refueling.
- Replace gasoline cap securely and wipe off any spilled gasoline before starting the engine as it may cause a fire or explosion.
- Extinguish all cigarettes, cigars, pipes and other sources of ignition.
- Never refuel machine indoors because flammable vapors will accumulate in the area.
- Never store the machine or fuel container inside where there is an open flame or spark such as a gas water heater, space heater, or furnace.
- Never run an engine inside a closed area.
- To reduce fire hazard, keep mower free of grass, leaves, or other debris build-up. Clean up oil or fuel spillage. Allow mower to cool at least 5 minutes before storing.
- Before cleaning, repairing, or inspecting, make certain the blade and all moving parts have

stopped. Disconnect the spark plug wire, and keep the wire away from the spark plug to prevent accidental starting.

- Check the blade and engine mounting bolts at frequent intervals for proper tightness. Also, visually inspect blade for damage (e.g., bent, cracked or worn). Replace with blade which meets original equipment specifications listed in this manual.
- Keep all nuts, bolts, and screws tight to be sure the equipment is in safe working condition.
- Never tamper with safety devices. Check their proper operation regularly.
- After striking a foreign object, stop the engine, remove the wire from the spark plug, and thoroughly inspect the mower for any damage. Repair the damage before starting and operating the mower.
- Never attempt to make a wheel or cutting height adjustment while the engine is running.

- Grass catcher components are subject to wear, damage and deterioration, which could expose moving parts or allow objects to be thrown. For safety protection, frequently check components and replace with manufacturer's recommended parts, when necessary.
- Mower blades are sharp and can cut. Wrap the blade(s) or wear gloves, and use extra caution when servicing them.
- Do not change the engine governor setting or overspeed the engine. Excessive engine speeds are dangerous.



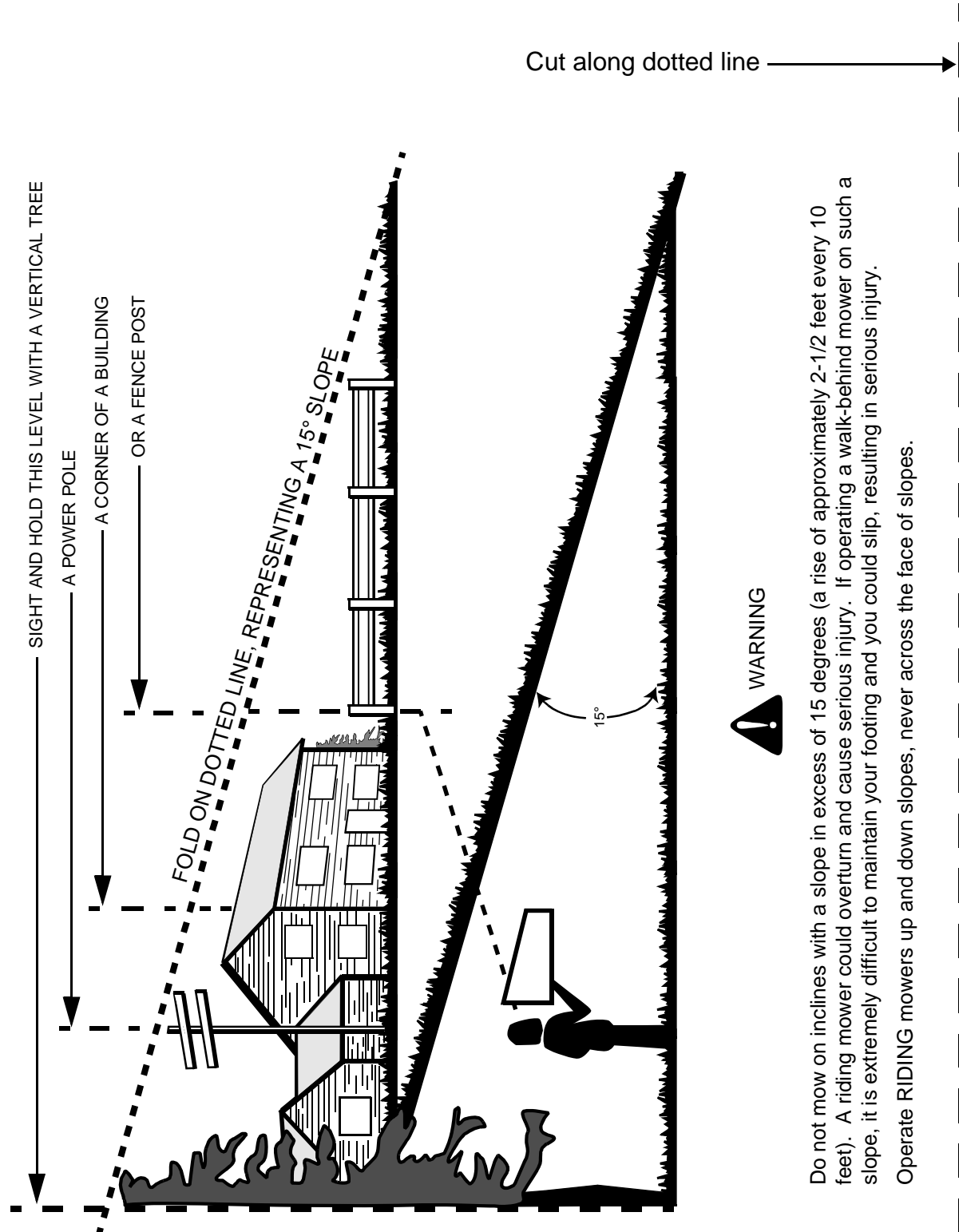
Warning - Your Responsibility: Restrict the use of this power machine to persons who read, understand and follow the warnings and instructions in this manual and on the machine. Two safety labels are reproduced in Figure 2.



Figure 2 Safety Labels Found On Lawn Mower

SECTION 4: SLOPE GAUGE

USE THIS PAGE AS A GUIDE TO DETERMINE SLOPES WHERE YOU MAY NOT OPERATE SAFELY.



WARNING

Do not mow on inclines with a slope in excess of 15 degrees (a rise of approximately 2-1/2 feet every 10 feet). A riding mower could overturn and cause serious injury. If operating a walk-behind mower on such a slope, it is extremely difficult to maintain your footing and you could slip, resulting in serious injury.

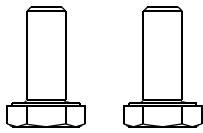
Operate RIDING mowers up and down slopes, never across the face of slopes.

SECTION 5: CONTENTS OF HARDWARE PACK

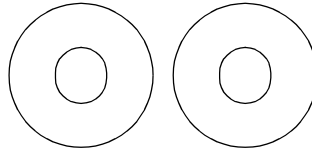
For identification purposes, lay out the hardware according to the illustration below. Part numbers are shown in parentheses. (Hardware pack may contain extra items which are not used on your unit.)

A

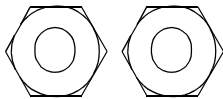
Attaching the struts



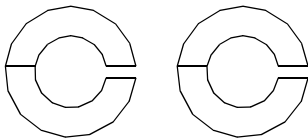
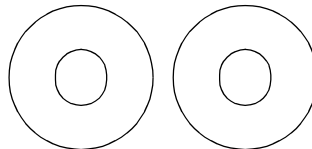
Hex Bolt
1/4-20:.620
(710-0751)



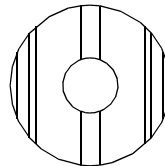
Bell Washer
.265 I.D. x .75 O.D. x .062
(736-0270)



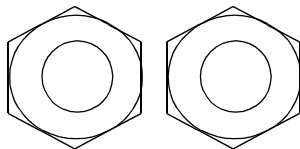
Nut 1/4-20
(712-0287)



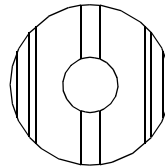
Lock Washer 5/16
(736-0119)



Saddle Washer
.320 I.D. x .83 O.D.
(736-0451)

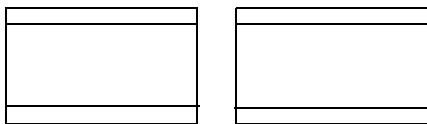


Nut 5/16-18
(712-0267)

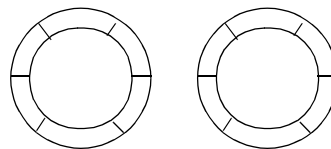
**B**

Attaching the rear wheels

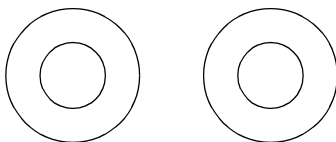
(Only required if rear wheels are not installed before shipping)



Spacer
(750-0151)



Wave Washer
.510 I.D. x .750 O.D. x .017
(736-0504)



Flat Washer
.406 I.D. x .812 O.D. x .051
(736-3050)



Top Lock Jam Nut
3/8-16
(712-3020)

SECTION 6: UNPACKING

Removing Unit from Carton

- Remove staples, break glue on top flaps, or cut tape at carton end and peel along top flap to open carton. Remove loose parts if included with unit (i.e., operator's manual, etc.). See Figure 3.

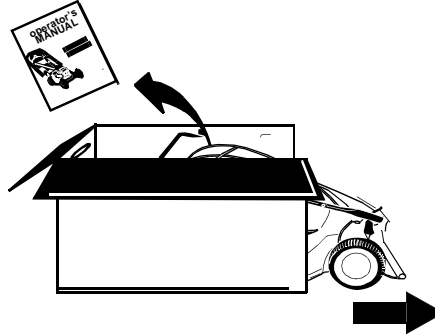


Figure 3

- Cut along dotted lines and lay carton down flat. Remove packing material. Roll or slide unit out of carton. Check carton thoroughly for loose parts.

NOTE: Make sure not to crimp the cables while removing the loose parts or the entire unit from the carton.

SECTION 7: SET-UP INSTRUCTIONS

NOTE: This operator's manual caters to several models of lawn mowers. Please follow instructions pertaining to your unit only.

Reference to right or left hand side of the mower is observed from the operating position.

Tools Required

Pair of Pliers
Set of adjustable wrenches
Funnel

Important: This unit is shipped WITHOUT GASOLINE or OIL in the engine. Be certain to service engine with gasoline and oil before operating your mower.

Disconnecting Spark Plug

- Before setting up your lawn mower, disconnect the spark plug wire from the spark plug, and ground it against the engine. See Figure 4.
- If the engine is equipped with the optional rubber boot, attach the boot to a bolt on the engine to ground.

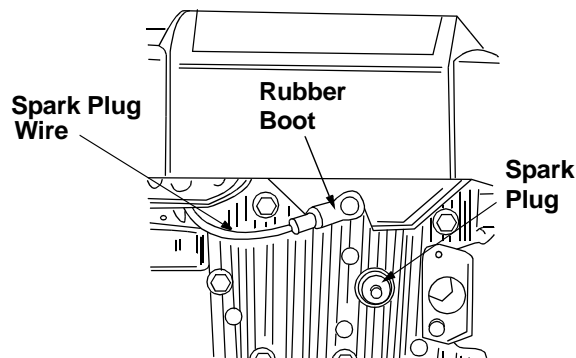


Figure 4

Assembling Handle

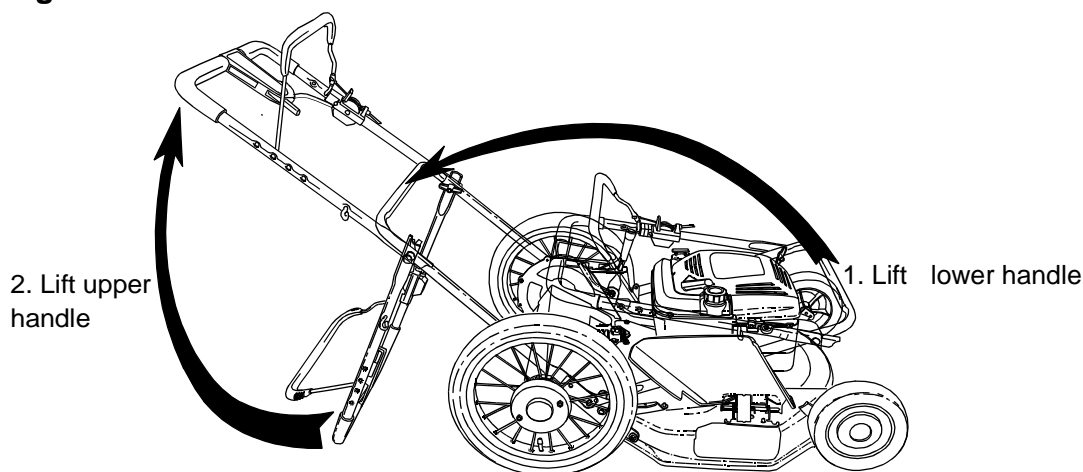


Figure 5

- Raise the lower handle in the direction shown in Figure 5 (step 1) till it snaps into place.
- Raise the upper handle in the direction shown in Figure 5 (step 2). Tighten the hand knobs which are already on the handle. See Figure 6A. For convenience in assembly, do not overtighten these knobs as you will be replacing these later in the assembly.

NOTE: Make sure to route the cables inside the lower handle. Also do not crimp the cables while lifting the handle up.

- For shipping purposes, the hairpin clip is placed in the outer hole of the weld pin on the lower handle. Remove the hairpin clip from the outer hole of the weld pin.
- Using a pair of pliers, insert the hairpin clip into the inner hole in the weld pin. Repeat on other side. See Figure 6B.
- Attach the cables to the lower handle with the two cable ties already on the lower handle. Pull tight the cable ties and cut off the extra. See Figure 6C below.

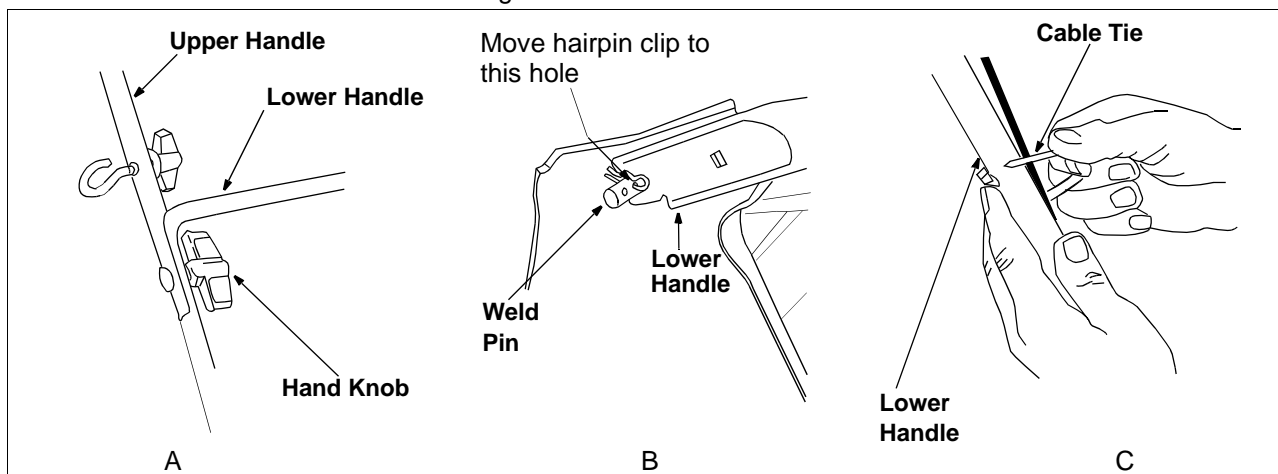


Figure 6

Installing Strut

- Remove the two plastic hand knobs which secure the upper handle to the lower handle. Discard the hand knobs.
- Place the saddle washers over the carriage bolts on the handle aligning the curved side of the bolts against the contour of the handle. See Figure 7.
- Place struts over the carriage bolts. Secure loosely with lock washers and hex nuts. See Figure 7.

- Attach the other end of the struts as follows. Place one cupped washer over each hex bolt aligning the crowned side of the washer against the head of the bolt. Insert hex bolts up through the middle holes in deck beside the engine and then through the struts. Secure with cupped washers (cupped side against strut) and hex nuts. See Figure 7. Tighten all hardware at both ends of the strut.

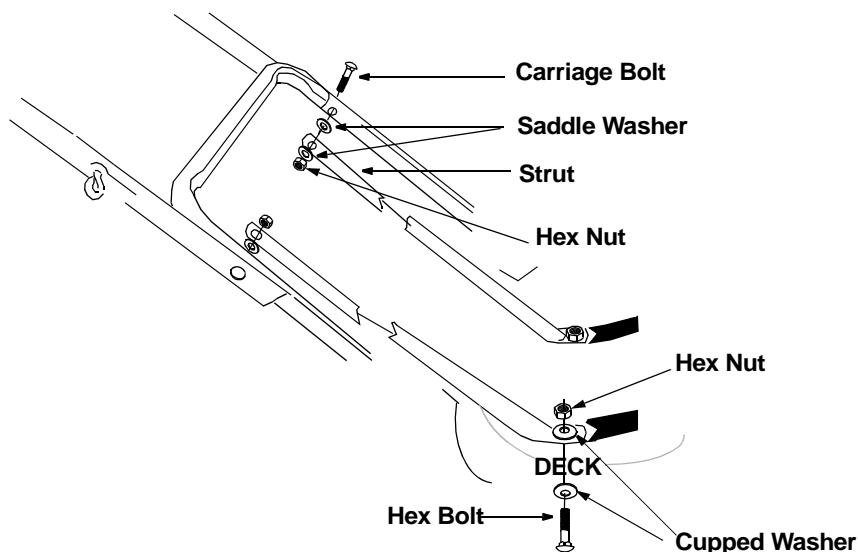


Figure 7

Installing Rear Wheels and Axle Shaft

NOTE: Some lawn mower models covered in this operator's manual are shipped with the rear wheels and axle shaft already installed on the unit. If your mower is one of these, proceed to the next sub-section now.

- Block the rear of the mower securely. Move rear height adjusters to the highest position. For location and description of these height adjusters, refer to the Controls section of this manual.
- Note that the right side of the axle shaft has two tabs and the left side has one tab only. See Figure 8. Identify the right and the left side of the rear axle shaft before proceeding to install.
- Slide the left side of the rear axle shaft through the right pivot bar as shown in Figure 8.
- Rotate the axle shaft until the first tab on the right side of the shaft clears the keyed hole on the pivot bar. Rotate further until the second tab on the right side of the axle shaft locks into the hole in the pivot bar and the tab on the left side of the axle shaft touches the surface of the left pivot bar.
- Insert a spacer and a wave washer on the axle shaft followed by wheel assembly, flat washer and a hex jam nut. See Figure 8. Tighten securely.

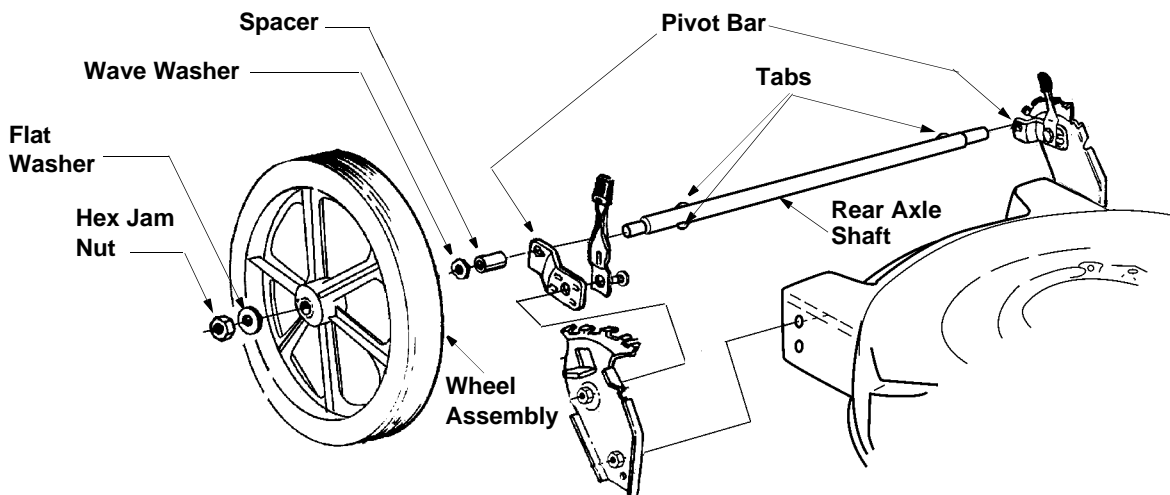


Figure 8

- Install the other wheel assembly and the other end of the axle shaft in the same way.
- Remove the blocks from the rear of the mower and place the rear height adjusters in the same relative position as the two front height adjusters.

Attaching Starter Rope

NOTE: The rope guide is already attached to the right side of the upper handle of your mower.

- With the spark plug wire disconnected and grounded, hold the blade control handle against the upper handle, and pull the starter rope out of the engine.
- Slip the rope through the rope guide. See Figure 9. Tighten the wing nut holding the rope guide to the upper handle.

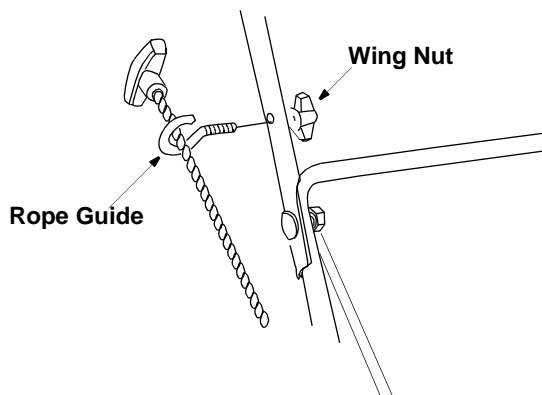


Figure 9

Chute Deflector

The chute deflector is held in an upright position during shipping by means of a retainer. Remove this retainer following the steps below.

- Lift the spring-loaded chute up towards the engine and remove the retainer. Lower the chute carefully into the operating position keeping fingers out of the way.



WARNING: The chute retainer is used for shipping purposes only. It must be removed from the chute deflector and discarded before operating the mower.

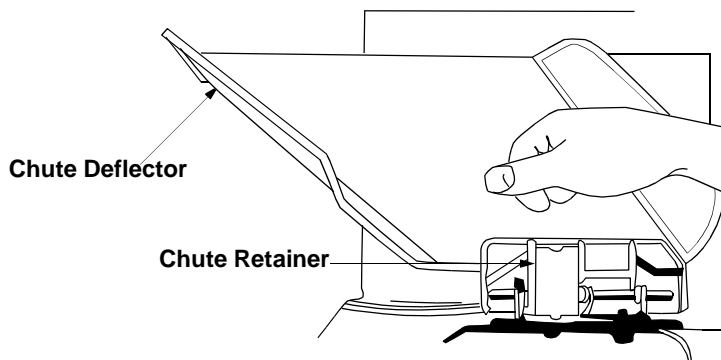


Figure 10

Installing Mulching Baffle (Optional)

A mulching kit (OEM 190-110) is available for the mowers shown in this manual. To obtain a mulching kit, contact the local retailer or service dealer. Some lawn mower models covered in this manual may already be equipped with the optional mulching baffle. If yours is one of these, install the baffle following the steps below.

- Lift the chute deflector up and slide the notches at the bottom of the mulching baffle over the lip of the discharge opening. See Figure 11.

- Push the hooks on top of the baffle till these snap over the hinge on the discharge chute. Release the chute deflector.

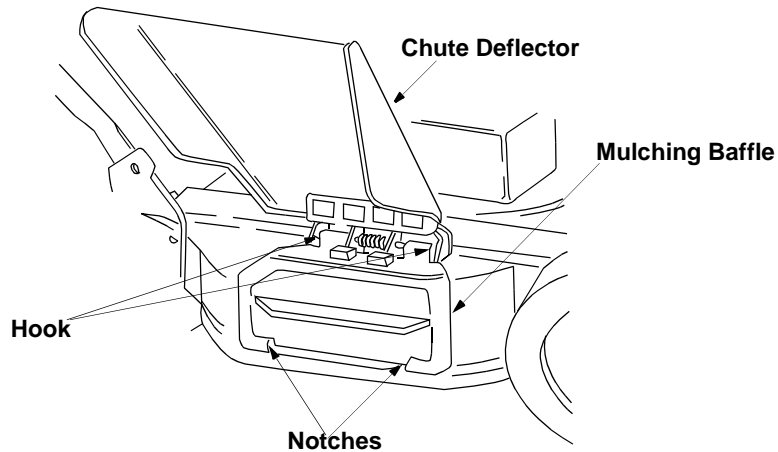


Figure 11

SECTION 8: CONTROLS

IMPORTANT: Always wear safety glasses while operating the mower, or while performing any adjustments or repairs on it. Read this operator's manual and safety rules before operating your lawn mower. Compare the illustrations in Figure 12 with your lawn mower to familiarize yourself with the location of various controls and adjustments.

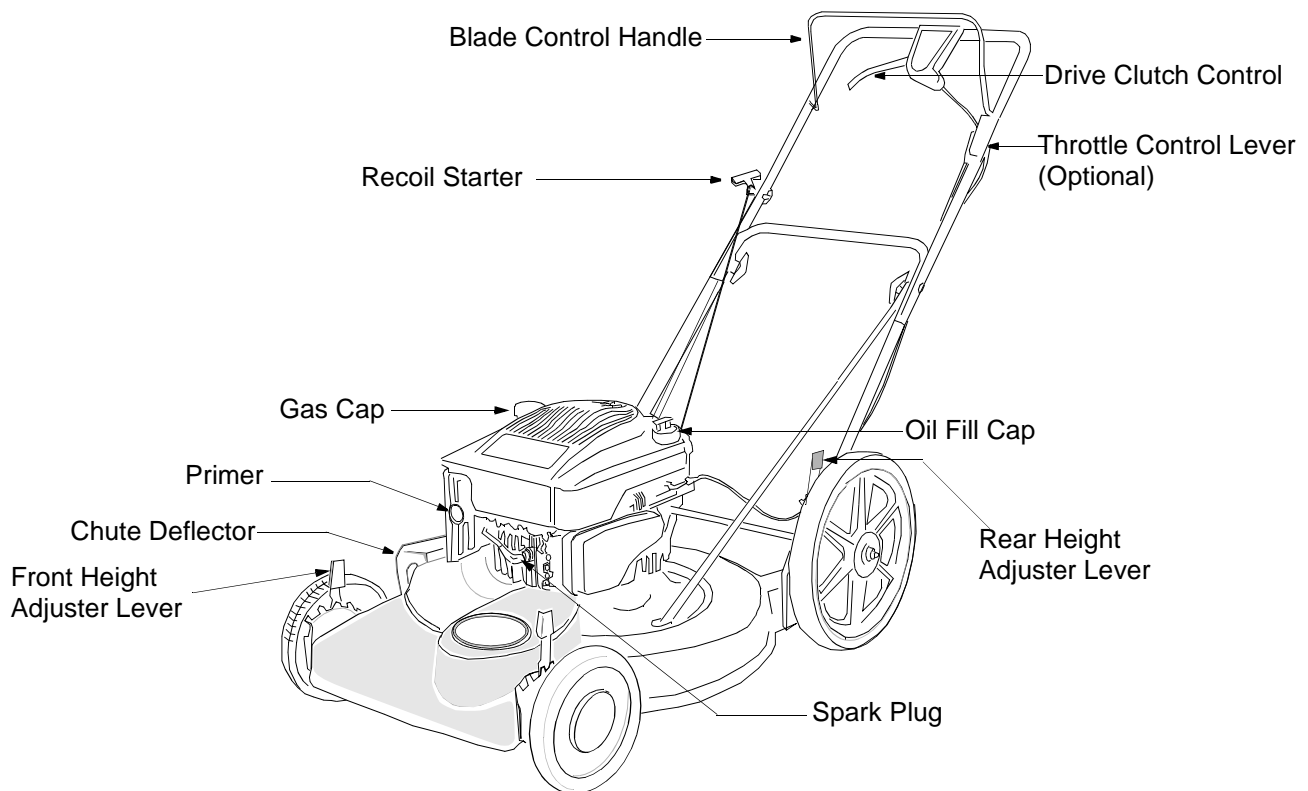


Figure 12

Drive Clutch Control

Squeeze the drive clutch control against the upper handle of the mower to engage the drive mechanism and move the wheels. Release the drive clutch control to slow down the mower when negotiating an obstacle, making a turn, or stopping the mower.

Recoil Starter

The recoil starter rope is attached to the handle. Stand behind the unit and pull the recoil starter to start the unit.

Blade Control Handle



WARNING: This control mechanism is a safety device. Never attempt to bypass its operations.

The blade control handle is located on the upper handle of the mower. See Figure 12. The blade control handle must be depressed in order to operate the unit. Release the blade control handle to stop the engine and blade.



WARNING: The blade will be rotating whenever the engine is running.

Throttle Control (Optional)

Your lawn mower may be equipped with one of three types of throttle controls described below. Follow instructions which pertain to your unit.

1. The throttle control is located on the left side of the upper handle. It is used to regulate the engine speed.
2. The throttle control is located on the engine. It is used to regulate the engine speed.
3. The mower engine is equipped with a constant speed throttle, which is set at full throttle for best performance.



WARNING: The throttle control cannot be used to stop the engine. Also if your mower's throttle control is located on the engine, do not adjust the throttle control while the engine is running.

Primer (If equipped)

The primer is located on the engine as shown in Figure 12 and is used to pump gas into the carburetor. Use it to start a cold engine, but do not use it to restart a warm engine after short shutdown.

Height Adjustment Lever

The height adjustment lever is located on each wheel and is used to adjust the cutting height. See Figure 12. All four levers have to be put at the same level for uniform cutting height.

SECTION 9: OPERATION



WARNING: Keep hands and feet away from the chute area on cutting deck. Refer to warning label in Figure 2.

The operation of any lawn mower can result in foreign objects being thrown into the eyes, which can result in severe eye damage. Always wear safety glasses or eye shields. We recommend wide vision safety mask for over spectacles or standard safety glasses.

Gas and Oil Fill-Up

- Service the engine with gasoline and oil as instructed in the separate engine manual packed with your mower. Read instructions carefully.



WARNING: Never fill fuel tank indoors, with engine running or until the engine has been allowed to cool for at least two minutes after running.

Before Starting

- Attach spark plug wire to spark plug. If your unit is equipped with a rubber boot over the end of the spark plug wire, make certain the metal cap on the end of the spark plug wire (inside the rubber boot) is fastened securely over the metal tip on the spark plug.

To Start Engine and Engage Blade

- If engine is equipped with a throttle control lever, move the lever all the way forward to the FAST (rabbit) position. Your mower is designed to operate at full throttle. Engines with fixed throttles operate at full throttle too.
- If engine is equipped with a primer, prime engine as instructed in the separate engine manual packed with your unit.
- Standing behind the unit, depress the blade control handle and hold it against the upper handle.
- Grasp starter handle and pull rope out slowly until engine reaches start of compression cycle (rope will pull slightly harder at this point). Let the rope rewind slowly.
- Pull rope with a rapid, continuous, full arm stroke. Keep a firm grip on recoil starter. Return it slowly to the rope guide. See Figure 13.

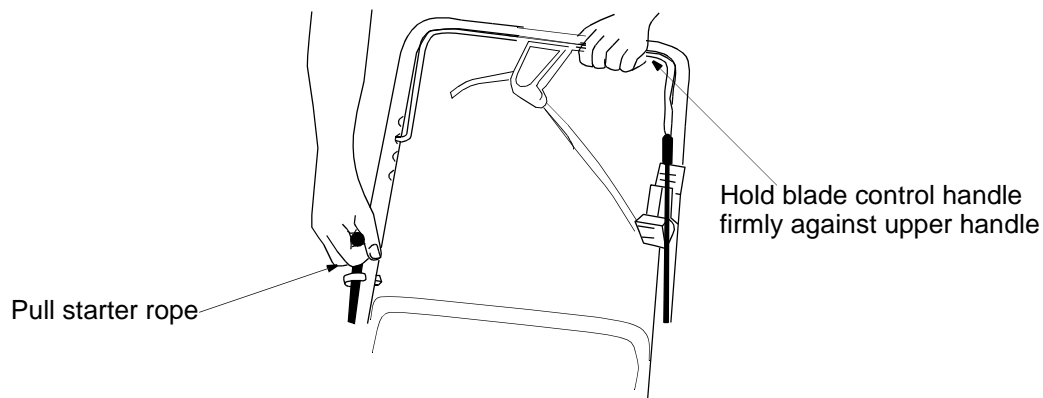


Figure 13

To Stop Engine and Blade

- If engine is equipped with throttle control lever on the handle, move the lever to the SLOW (turtle) position.
- Release the blade control handle to stop the engine and blade.



WARNING: The blade continues to rotate for a few seconds after the engine has been shut off.

- Disconnect the spark plug wire and ground it against the engine to prevent accidental starting while equipment is unattended.

NOTE: For shipping purposes your mower is set with the wheels in a low cutting height position. For best results, raise the cutting position until it is determined which height is best for your lawn.

Using Rotary Mower



WARNING: Never operate your unit without either the rear deflector or entire grass catcher assembly in place.

- Be sure that lawn is clear of stones, sticks, wire, or other objects which could damage lawn mower or engine. Such objects could be accidentally thrown by the mower in any direction and cause serious personal injury to the operator and others.
- For best results, do not cut wet grass because it tends to stick to the underside of the mower, preventing proper discharge of grass clippings, and could cause you to slip and fall. New grass, thick grass or wet grass may require a narrower cut. Blade speed should be adjusted to the condition of the lawn.
- For a healthy lawn, never cut more than one-third of the total length of the grass at any one cutting. Lawn should be cut in the fall as long as there is growth.
- This mower is designed to be operated at full throttle to give you the best cut and do the most effective job of bagging the cut grass.

- Squeeze the drive clutch control against the upper handle of the mower to engage the drive mechanism and move the wheels. Release the drive clutch control to slow down the mower when negotiating an obstacle, making a turn, or stopping the mower.



WARNING: If you strike a foreign object, stop the engine. Remove wire from spark plug, thoroughly inspect the mower for any damage, and repair the damage before restarting and operating the mower. Extensive vibration of the mower during operation is an indication of damage. The unit should be promptly inspected and repaired.

Using Mulcher (Optional Equipment)

- For effective mulching, do not cut wet grass because it tends to stick to the underside of the deck, preventing proper mulching of grass clippings.
- New or thick grass may require a narrower cut. The ground speed of the mower should be adjusted to the condition of the lawn. If mowing has been delayed and the grass has been allowed to grow in excess of 4", mulching is not recommended. Mow using the grass bag (if so equipped) to reduce the grass height to 3-1/4" maximum before mulching.

SECTION 10: ADJUSTMENTS



WARNING: Always stop the engine and disconnect the spark plug wire before performing any adjustments on your lawn mower.

Adjusting Cutting Height

IMPORTANT: All wheels must be placed in the same relative position. For rough or uneven lawns, move the height adjustment lever to a higher position. This will help stop scalping of the grass.

There is an adjusting plate and thumb lever at each wheel to enable the operator to adjust the mower's cutting height. Each adjusting plate has nine height positions. Height of cut will be changed when you move the thumb lever from one hole to another within these nine positions.

- Simply depress the lever towards wheel and move lever assembly to desired position. See Figure 14A.
- For rough or uneven lawns, move the height adjustment levers to higher cutting height position.

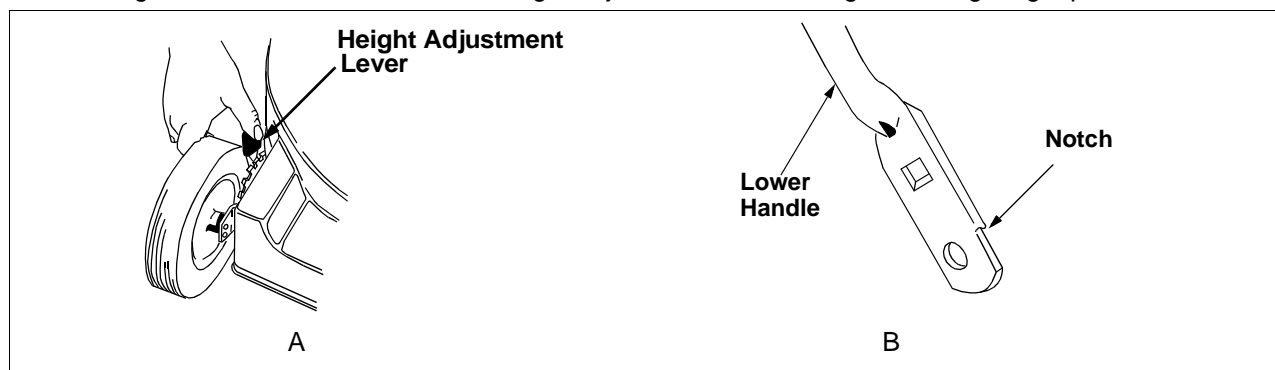


Figure 14

Adjusting Handle Height

Your mower is shipped with the handle in the higher height position. To lower the handle height, proceed as follows.

- Remove the starter rope from the rope guide.
- Remove the upper handle by removing the hand knobs and carriage bolts. Lay the upper handle out of the way, being careful not to bend or kink the cables.
- Remove the hairpin clips from the weld pins on the handle brackets. Refer to Figure 6B. Press out on the legs of the lower handle. Remove lower handle from the mower.

- Turn the lower handle around so the notch on the bottom of the lower handle is facing forward as shown in Figure 14B. Reassemble, placing the bottom holes in the handle over the weld pins in the handle mounting bracket.
- Reassemble the upper handle to the lower handle.
- Place the hairpin clips in the inner holes of the weld pins and attach the starter rope as instructed in the Assembly section.

Adjusting Throttle Control

If your lawn mower is equipped with an adjustable throttle control on the handle (refer to the first category of throttle control described on page 13 of this manual), adjust it following instructions below.

Adjust the throttle control only if it is out of adjustment, or if it has been replaced.

- Remove the screw shown in Figure 15. Remove the cable clamp from the cable. **NOTE:** If your mower has a **Tecumseh engine**, simply loosen the screw shown in Figure 15 so the cable will move freely beneath the clamp. It is not necessary to remove the screw and clamp completely.
- Push the throttle control lever on the handle all the way forward as far as it will go, then back it off one "click." Make certain the throttle control lever remains in this position.
- Push the control lever on the engine as far toward the rear of the engine as it will go. Secure the cable in this position with the cable clamp and screw.

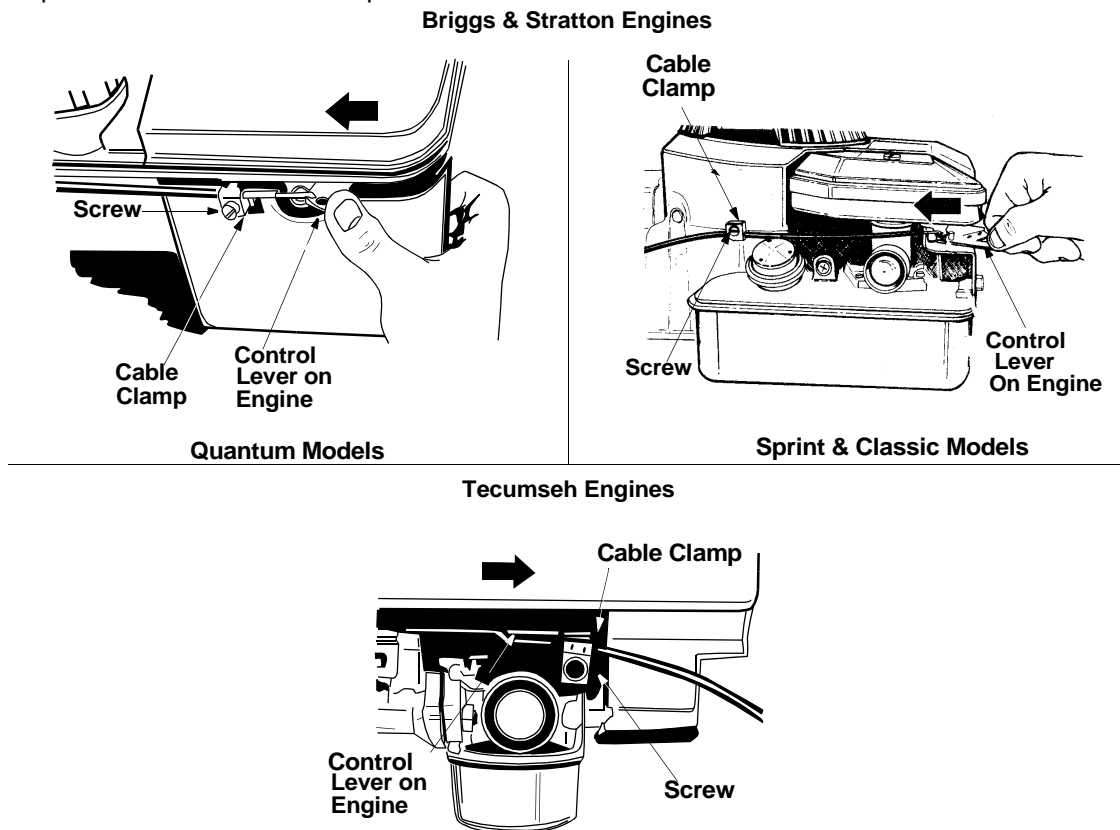


Figure 15

Adjusting Drive Clutch

The drive clutch control adjustment wheel is located in the drive clutch control handle housing and is used to tighten or loosen the drive belt. You will have to adjust the drive clutch control if any of the following happens:

1. The mower does not propel itself with the drive clutch engaged.
2. The mower's drive wheels hesitate with the drive clutch engaged.

- To adjust the drive clutch, rotate the adjustment wheel with your fingers. You should rotate the wheel clockwise to tighten the cable and counter-clockwise to loosen the cable. See Figure 16.
- If the drive clutch control handle is not in a comfortable position for you, adjust the handle by tightening the adjustment wheel. See Figure 16.

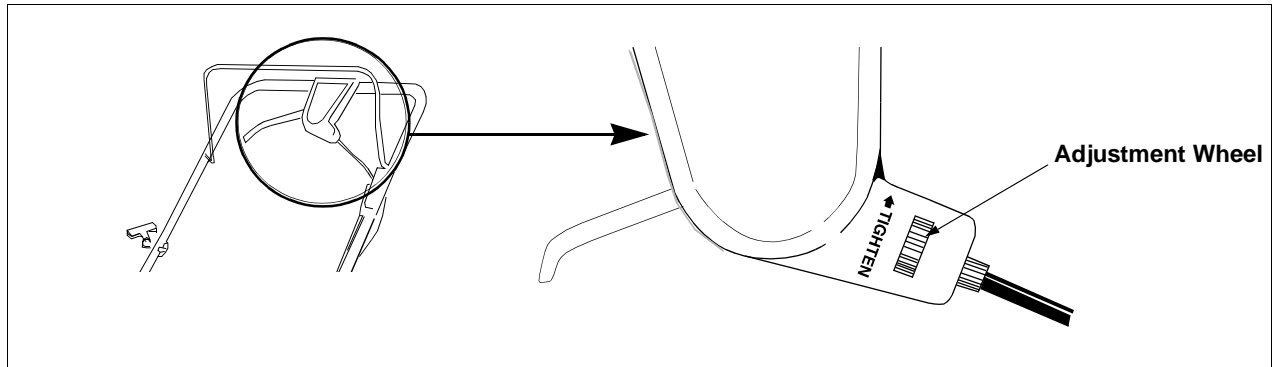


Figure 16

Adjusting Carburetor

If the engine is running rough, minor adjustments to the carburetor may be required to compensate for differences in fuel, temperature, altitude and load.

NOTE: A dirty air cleaner may cause an engine to run rough too. So make sure that the air cleaner is clean and attached to the carburetor before deciding to adjust the carburetor.

To adjust the carburetor, please follow the recommendations and instructions on carburetor adjustment in the engine manual.



WARNING: If any adjustments are made to the engine (e.g. carburetor) while the engine is running, keep clear of all moving parts. Be careful of heated surfaces like the muffler.

SECTION 11: LUBRICATION



WARNING: Always stop engine and disconnect spark plug wire before cleaning, lubricating or performing any kind of work on your lawn mower.

For complete lubrication chart, see Figure 17.

Wheels: The wheels require no lubrication. However, if the wheels are removed for any reason, lubricate the surface of the axle bolt and the inner surface of the wheel with light oil or engine oil.

Chute Deflector: Lubricate the torsion spring and the pivot point on each end of the chute deflector using a light oil. This will prevent rusting and ensure that the deflector, which is a safety device, can always work properly.

Engine: Follow the engine manual instructions and recommended schedule for lubricating engine components.

Pivot Points: Lubricate the pivot points on the blade control handle, brake cable and the cutting height adjustment lever at least once a season with light oil. The blade control handle must operate freely in both directions. The cutting height adjustment lever should be able to move easily.

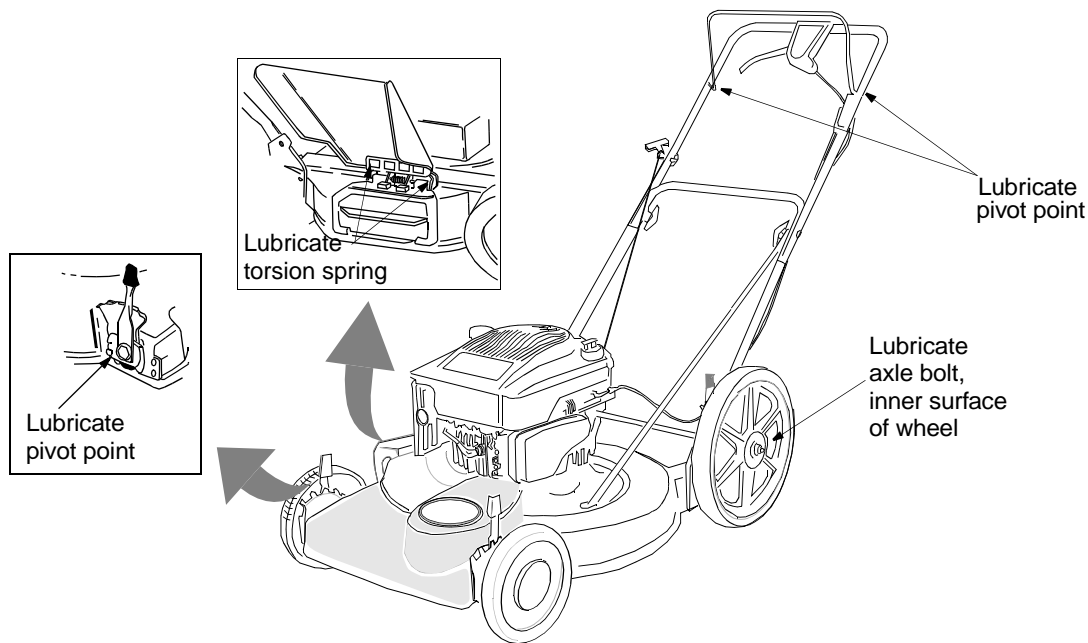


Figure 17

SECTION 12: MAINTENANCE



WARNING: Always stop engine and disconnect spark plug wire before performing any maintenance work or adjustments on your lawn mower.

Cleaning Mower

The underside of the mower deck should be cleaned after each use to prevent any build-up of grass clippings, leaves, dirt, or other debris. If this debris is allowed to accumulate, it will result in rust and corrosion.

- Disconnect spark plug wire. Drain the gasoline from the lawn mower, or place a piece of plastic under the gas cap.
- Tip the mower so that it rests on the housing. Keep the side with the air cleaner facing up. Hold the mower firmly.
- Scrape and clean the underside of the deck with a suitable tool. Do not use water.
- Put the mower back on its wheels on the ground. If you had put plastic under the gas cap, make sure to remove it now.



WARNING: Never tip the mower more than 90 degrees and do not leave the mower tipped for any length of time. Oil can drain into the upper part of the engine causing problems in starting the engine.

Blade Care

- Disconnect spark plug wire from spark plug.
- Turn mower on its side making sure that the air filter and the carburetor are up.
- Periodically inspect the blade adapter for cracks, especially if you strike a foreign object. Replace when necessary.



WARNING: When removing the cutting blade for sharpening or replacement, protect hands by using heavy gloves or a rag to grasp the cutting blade.

To Remove Blade

- Remove the bolt and the bell washer securing the blade assembly to the crankshaft. See Figure 18A.
- Remove the two pairs of hex bolt and lock nut holding the blade to the blade adapter and the pulley assembly. Keep the hardware in a safe place.
- Remove the blade and adapter from the crankshaft.

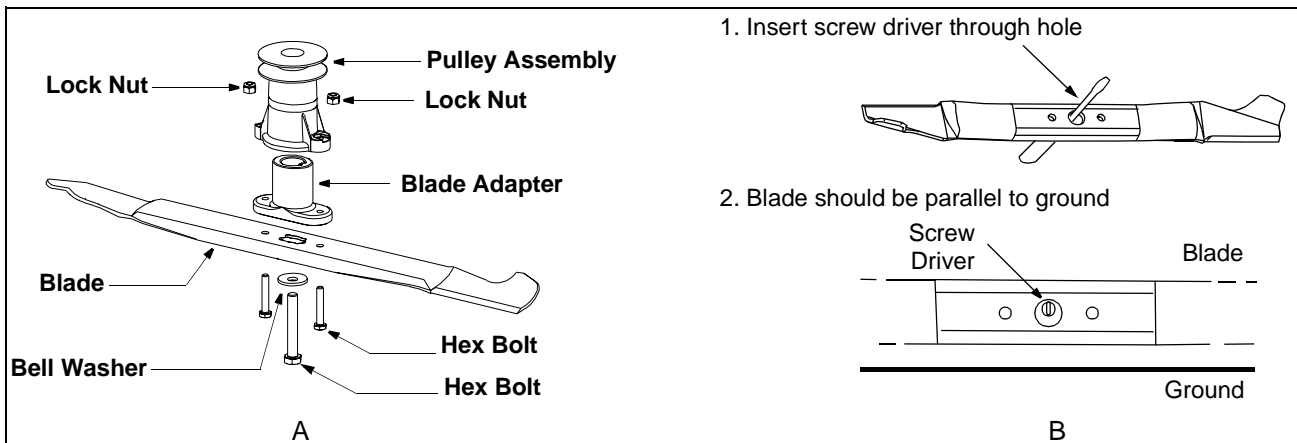


Figure 18

To Replace Blade:

- Before reinstalling the blade and the pulley to the unit, lubricate the engine crankshaft and the inner surface of the blade adapter with light oil or engine oil. Also lubricate the bolt holes, bolts and inner surface of the nuts.
- Install the pulley over the blade adapter with the “star” away from the pulley. See Figure 18A.
- Place the new blade on the adapter with the side marked bottom (or with part number) facing away from the adapter.
- Secure the blade to the pulley and the blade adapter with two hex bolts and lock nuts as shown in figure. Tighten the hex bolts to the torque listed below.
- Install the blade assembly on the crankshaft. Secure with the large hex bolt and bell washer (cupped side of the washer against blade) and tighten to the torque listed below.

Blade Mounting Torque:

Blade Adapter Bolts: 120 inch-lbs. minimum; 150 inch-lbs. maximum.

Center Bolt: 450 inch-lbs. minimum; 600 inch-lbs. maximum.

IMPORTANT: The bolt, used to secure the blade to the engine, is specially heat-treated. **Do not substitute.** To order replacement bolt, refer to the Parts List section of this manual.



WARNING: To ensure safe operation of your unit, all nuts and bolts must be checked periodically for correct tightness.

To Sharpen Blade:

- The blade can be sharpened with a file or on a grinding wheel. Do not attempt to sharpen while blade is still installed on the mower.
- Follow the original angle of grind as a guide. Make sure that each cutting edge receives an equal amount of grinding to prevent an unbalanced blade.

NOTE: An unbalanced blade will cause excessive vibration when rotating at high speeds, may cause damage to the mower and could break, causing personal injury. Test the blade by balancing it on a round shaft screwdriver or a blade balancer. See Figure 18B.

- If the blade is not balanced, remove metal from the heavy side until it balances evenly.

Replacing Rear Flap

The rear flap is attached to the back of the mower deck, and is designed to minimize the possibility of objects being thrown from the rear of the mower towards the operator. If the rear flap is damaged, replace as follows.

- To remove the old rear flap, compress the hinge clips and remove the flap from the slot in rear of the deck. See Figure 19.
- To attach the new rear flap, place new hinge clips in the slots on the flap. Then compress the spring clips and reinsert flap in slots in rear of deck. See Figure 19.

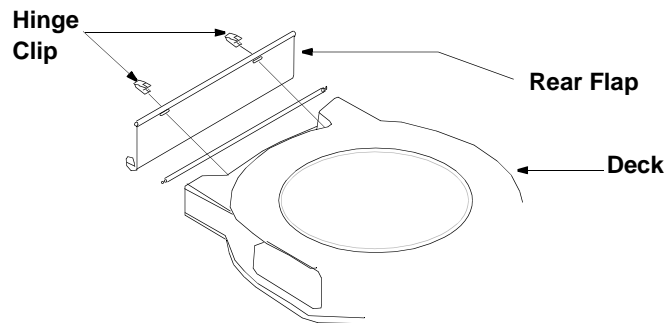


Figure 19

Replacing Drive Belt

- Remove the two shoulder screws from top of the deck which secures the front drive cover to the mower deck.
- Remove the front drive cover from the unit by lightly pressing inward on the sides of the front drive cover. This will release the tabs that secure the front drive cover to the height adjuster brackets.
- Remove the idler and hardware from the idler bracket using 7/16" wrench and socket.
- Remove the belt from the transmission pulley as shown in Figure 20.

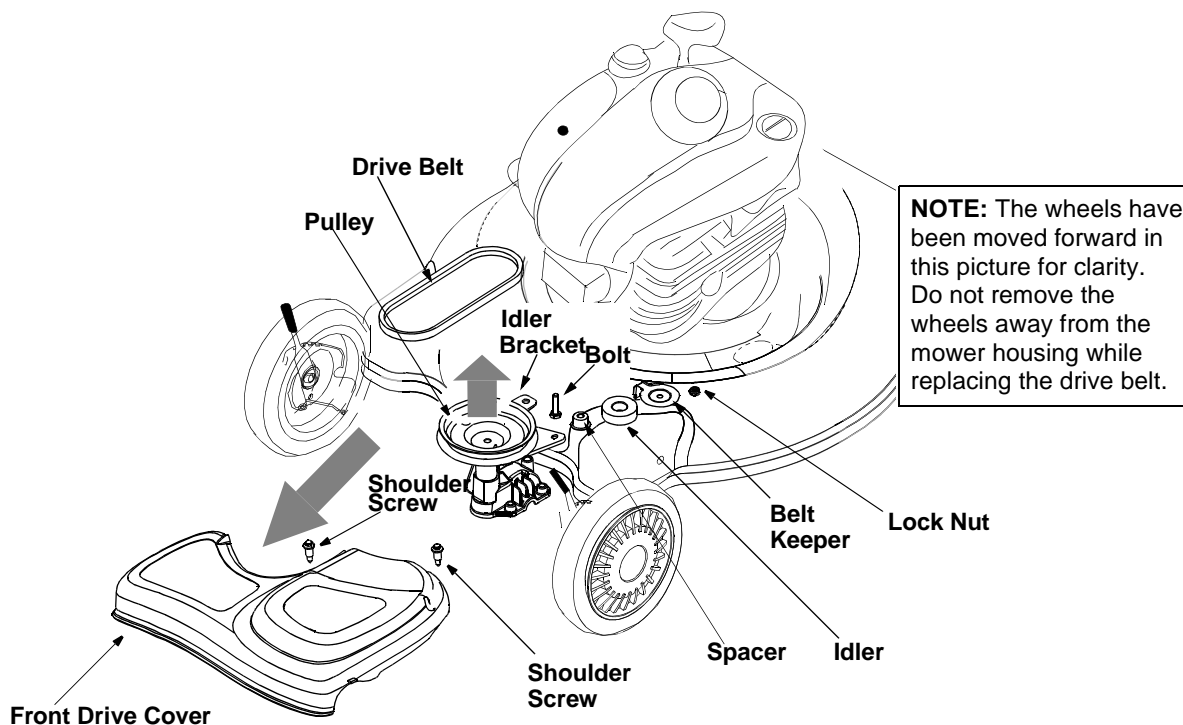


Figure 20

- Lift and stabilize the front of the deck.
- Loosen the center hex bolt and lower the blade and engine pulley until there is adequate clearance to move the belt past the belt keeper.
- Remove the belt from the engine pulley and around the blade. See Figure 21.
- Reassemble in reverse order with new belt (part # 754-0465). **NOTE:** Begin idler reassembly by inserting bolt up through the idler bracket hole. Adjust the drive clutch following instructions on page 16 of this manual.

IMPORTANT: Torque center hex bolt to between 450 and 600 in. lbs.

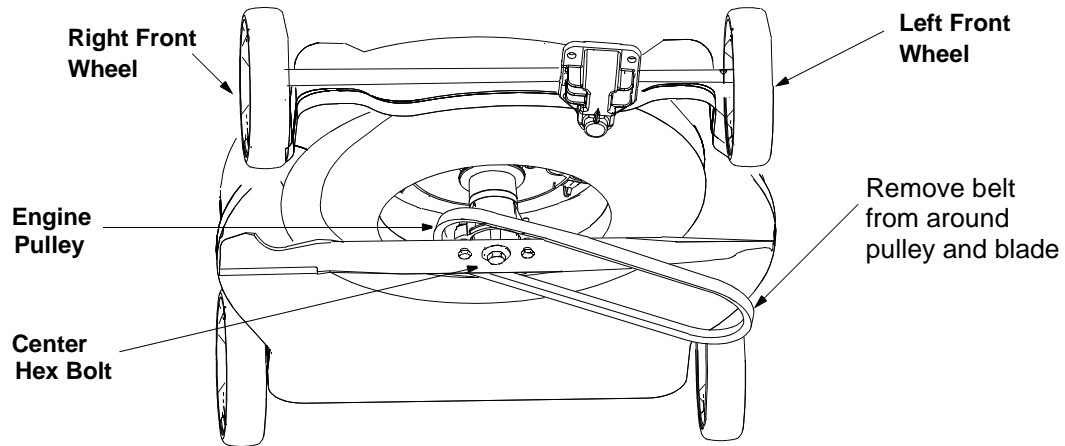


Figure 21

Maintaining Engine

Refer to the separate engine manual for engine maintenance instructions.

- Maintain engine oil as instructed in the separate engine manual packed with your unit. Read and follow instructions carefully.
- Service air cleaner every 25 hours under normal conditions. Clean every few hours under extremely dusty conditions. Poor engine performance and flooding usually indicates that the air cleaner should be serviced. To service the air cleaner, refer to the separate engine manual packed with your unit.
- The spark plug should be cleaned and the gap reset once a season. Spark plug replacement is recommended at the start of each mowing season; check engine manual for correct plug type and gap specifications.
- Clean the engine regularly with a cloth or brush. Keep the cooling system (blower housing area) clean to permit proper air circulation which is essential to engine performance and life. Be certain to remove all grass, dirt and combustible debris from muffler area.

SECTION 13: OFF-SEASON STORAGE

The following steps should be taken to prepare lawn mower for storage if it will not be used for 30 days or more. Compliance with these instructions will ensure that your mower will work properly when it is reused next season.

- Clean and lubricate mower thoroughly as described in the lubrication instructions.
- Refer to engine manual for correct engine storage instructions.
- Coat mower's cutting blade with chassis grease to prevent rusting.
- Store mower in a dry, clean area. Do not store next to corrosive materials, such as fertilizer.

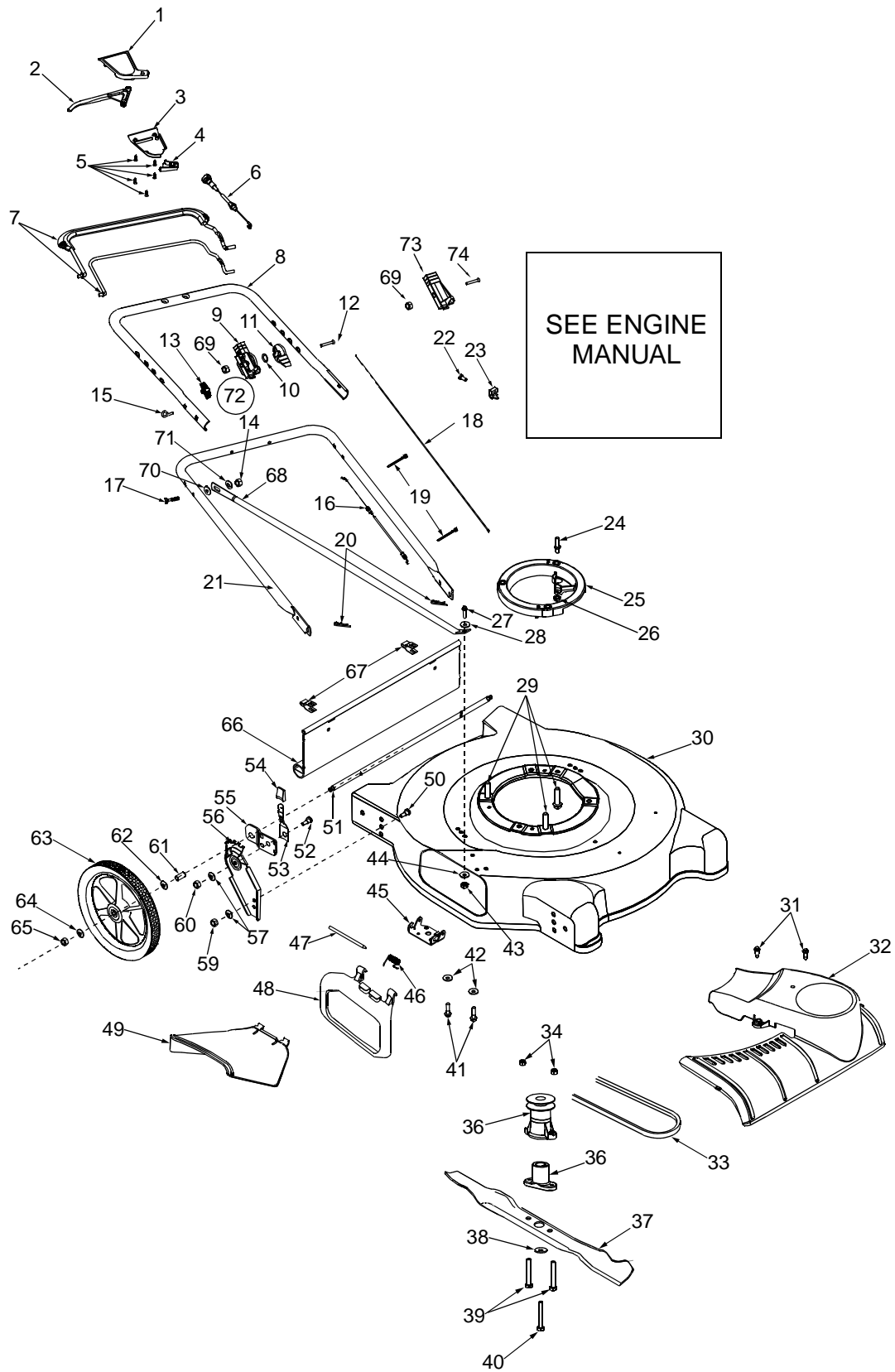
NOTE: When storing any type of power equipment in a poorly ventilated or metal storage shed, care should be taken to rust-proof the equipment. Using a light oil or silicone, coat the equipment, especially cable and all moving parts.

SECTION 14: TROUBLE SHOOTING GUIDE

Trouble	Possible Cause(s)	Corrective Actions
Engine fails to start	Blade control handle disengaged. Spark plug wire disconnected. Dirty aircleaner. Primer button not depressed. Throttle control lever not in correct starting position (if so equipped). Fuel tank empty or stale fuel. Blocked fuel line (if so equipped). Faulty spark plug. Engine flooded.	Engage blade control handle. Connect wire to spark plug. Refer to the engine manual packed with your unit. Refer to the engine manual packed with your unit. Move throttle lever to FAST or START position. Fill tank with clean fresh gasoline. Fuel will not last over thirty days unless a fuel stabilizer is used. Clean fuel line. Clean, adjust gap or replace. Refer to the engine manual packed with your unit.
Engine runs erratic	Unit running in START position. Spark plug wire loose. Blocked fuel line (if so equipped) or stale fuel. Vent in gas cap plugged. Water or dirt in fuel system. Dirty air cleaner. Carburetor out of adjustment.	Move throttle lever to FAST position. Connect and tighten spark plug wire. Check spark plug for fouling. Clean fuel line; fill tank with clean, fresh gasoline. Fuel will not last over thirty days unless a fuel stabilizer is added. Clean vent or threads or replace. Drain fuel tank. Refill with fresh fuel. Refer to the engine manual packed with your unit. Refer to the engine manual packed with your unit.
Engine overheats	Engine oil level low. Dirty aircleaner. Air flow restricted. Carburetor not adjusted properly.	Fill crankcase with proper oil. Refer to the engine manual packed with your unit. Stop engine and disconnect spark plug wire. Remove blower housing and clean. Refer to the engine manual packed with your unit or see an authorized service dealer.
Occasional skip (hesitates) at high speed	Spark plug gap too close. Carburetor idle mixture adjustment improperly set.	Adjust gap to .030". Refer to the engine manual packed with your unit.
Idles poorly	Spark plug fouled, faulty or gap too wide. Carburetor improperly adjusted. Dirty air cleaner.	Reset gap to .030" or replace spark plug. Refer to the engine manual packed with your unit. Refer to the engine manual packed with your unit.
Excessive vibration	Cutting blade loose or unbalanced. Bent cutting blade.	Tighten blade and adapter. Balance blade. See an authorized service dealer.
Mower will not mulch grass	Engine speed too low. Wet grass. Excessively high grass.	Set throttle between 3/4 and full throttle. Do not mow when grass is wet; wait until later to cut. Mow once at a high cutting height, then mow again at desired height or make a narrower cutting swath (1/2 width).
Uneven cut	Wheels not positioned correctly. Dull blade.	Place all four wheels in same height position. Sharpen or replace blade.
Wheels will not propel	Drive belt not installed properly. Debris clogging belt mechanism.	Check belt and reinstall pulley if necessary. Clean the area around the belt by scraping with a hard brush.

Note: For repairs beyond the minor adjustments listed above, contact your local authorized service dealer.

SECTION 15: REPAIR PARTS



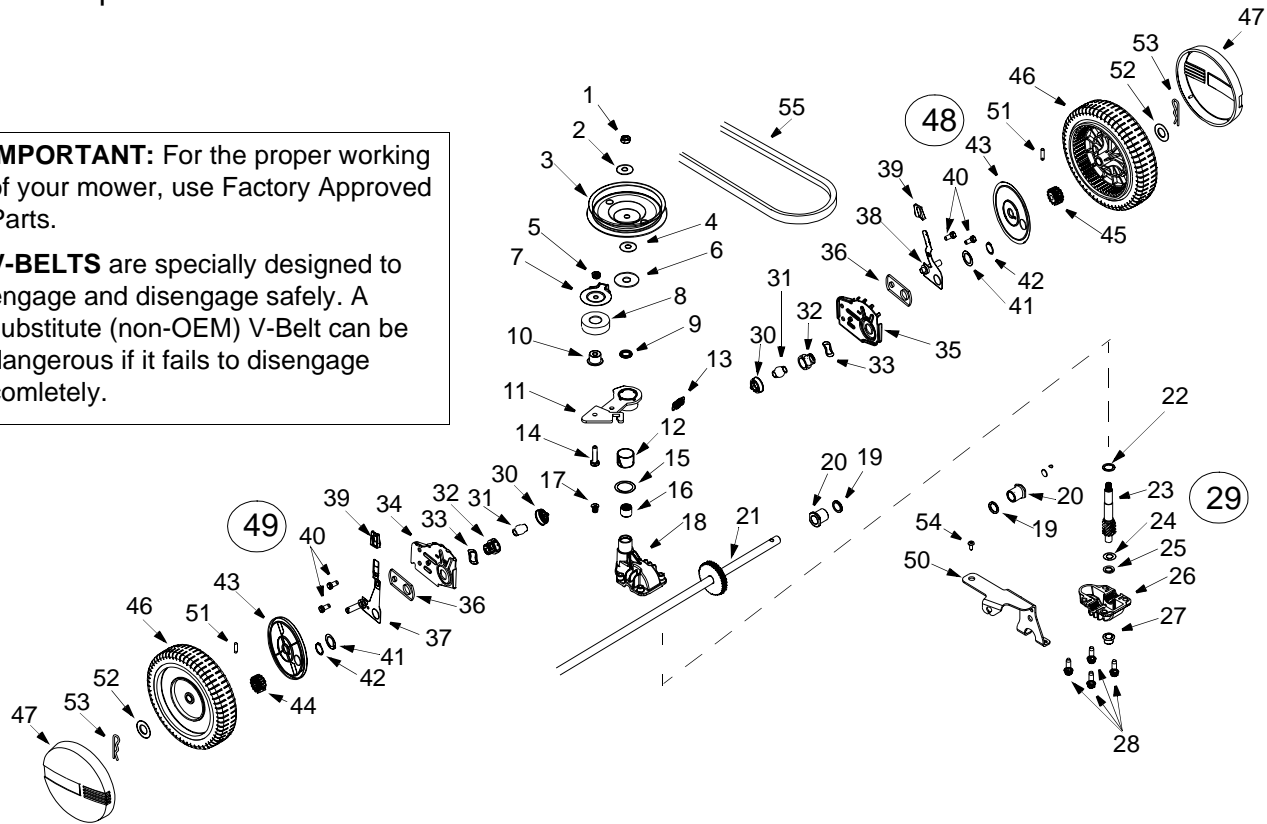
Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	731-1057	Upper Drive Cover	37	742-0642	Blade 22"
2	731-0620	Drive Lever		742-0742	Mulching Blade - 22"
3	731-1058	Lower Drive Cover	38	736-0452	Bell Washer .396 I.D. x 1.140 O.D. x
4	731-1059	Mounting Cap	39	710-0606	Hex Screw 1/4-20 x 1.50
5	710-1667	Screw # 10-16 x .625	40	710-1257	Hex Screw 3/8-24 x 2.50
6	746-0960	Drive Cable	41	710-0599	Tapp Screw 1/4-20 x .500
7	747-0824	Control Lever	42	736-0270	Bell Wash .265 x .75 x .062
	647-0004	Deluxe	43	712-0287	Hex Nut 1/4-20
8	749-0539C	Upper Handle	44	736-0270	Bell Washer .265 x .75 x .062
9	746-0875	Throttle Housing†	45	782-7006	Hinged Mounting Bracket
10	736-0501	Curved Washer .663 x .980 x .014†	46	732-0731	Torsion Spring
11	746-0876	Throttle Lever†	47	747-0710	Hinge Pin
12	710-0605	Screw Oval C-Sunk 1/4-20 x 1.81†	48	731-1386A	Mulch Plug
13	720-0279	Knob	49	731-1034	Chute Deflector
14	712-0267	Hex Nut 5/16-18	50	710-0793	Bolt 3/8-24 x .80
15	710-1205	Eye Bolt 1/4-20	51	738-0878	Rear Axle
16	746-0842	Throttle Cable: 51" B&S †	52	738-0507B	Shldr Screw .500 Dia x .434
	746-0847	Throttle Cable: 42" Tec †	53	732-0404	Lever Spring
17	710-1174	Carriage Bolt 5/16-18 x 2.0	54	720-0190	Knob
18	746-0550	Control Cable: 39" B&S	55	782-0519A	Small Pivot Bar- LH
	746-0737	Control Cable: 51" Tec		782-0520A	Small Pivot Bar- RH
19	726-0240	Tie Cable	56	682-0517	Handle Bracket Assembly - LH
20	714-0104	Cotter Pin		682-0518	Handle Bracket Assembly- RH
21	749-0928	Lower Handle	57	736-0105	Spring Washer
22	710-1237	Hex Screw: T: #10-32 x .625 B&S	58	712-0328	Hex Nut 3/8-24
	710-0871	Hex Screw: T: #10-32 x .625 Tec	59	736-0331	Bell Washer .39 x 1.13 x .062
23	751B213146	Cable Clamp B&S	60	712-0798	Hex Nut 3/8-16
	7510007775	Cable Clamp Tec	61	750-0151	Spacer
24	711-1293	Pin-Belt Keeper	62	736-0504	Wave Washer .510 ID x .750 OD
25	631-0075A	Engine Spacer	63	734-1864	Wheel Complete 14 x 1.8 Grey Bar
26	712-0271	Hex Nut 1/4-20 Thread	N/I	741-0484	Bearing (2 per Wheel - Incl. w/No. 63)
27	710-0751	Hex Screw 1/4-20 x .620	64	736-3050	Flat Washer .406 x .812 x .051
28	736-0270	Bell Washer .265 x	65	712-3020	Top Lock Jam Nut 3/8-16
29	710-1008	Tapp Screw w/Hex Lock Wash	66	731-1026	Rear Flap
30	782-0079	Deck 22" SD	67	17098	Hinge Clip
31	710-1650	Shoulder Screw TT	68	749-0939	Strut - Handle
32	731-1926	Trans Cover - Black w/Logo	69	712-0324	Hex Lock Nut 1/4-20
	731-1927	Trans Cover - Black wo/Logo	70	736-0451	Saddle Washer .20 ID x .83 OD
33	754-0466	V-Belt	71	736-0119	Lock Washer 5/16
34	712-0324	Hex Lock Nut 1/4-20 Thd.	72	811-00185	Throttle Comp. †
35	756-1146A	Drive Pulley	73	746-0883	Throttle Hsg. w/o Lever
36	753-0825	Blade Adapter Kit	74	710-1270	Scr. 1/4-20 x 1.31 Oval C-Sunk

† Optional

Self-Propelled Front Wheel Drive Transmission: 618-0298A

IMPORTANT: For the proper working of your mower, use Factory Approved Parts.

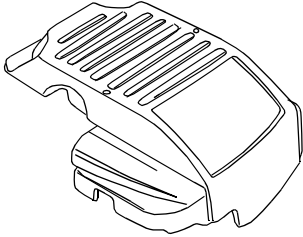
V-BELTS are specially designed to engage and disengage safely. A substitute (non-OEM) V-Belt can be dangerous if it fails to disengage completely.



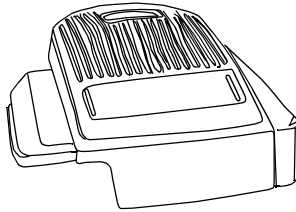
Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	712-3025	Hex Jam Nut 5/16-24	29	618-0298A	Transmission-Complete
2	736-0425	Bell Wash .325 x .930 x .045	30	732-0708	Bearing Retainer
3	756-1042	Pulley	31	741-0604	Bearing Sleeve .50 I.D.
4	736-0425	Bell Wash .325 x .930 x .045	32	748-0355	Bearing Support
5	712-0896	Hex Nut 1/4 - 28 Lock	33	736-0447	Wave Washer 1.5 x 1.0 x .029
6	736-0406	Flat Wash .442 x 1.38 x .060	34	782-0512B	Height Adj. Plate: RH
7	782-7598	Belt Keeper	35	782-0511A	Height Adj. Plate: LH
8	741-0124	Ball Bearing	36	682-0509	Pivot Plate Assembly
9	721-0457	Oil Seal	37	732-0706	Front Lever R.H
10	750-1050	Flange Spacer	38	732-0707	Front Lever L.H.
11	682-0028	Idler Bracket Assembly	39	720-0190	Knob
12	741-0682A	Bearing Sleeve	40	710-0216	Hex Cap Screw 3/8-16 x .75
13	732-0849A	Wash:Flat:.504 x .700 x .030	41	736-0474	Washer DD 1.5" O.D.
14	710-0299	Hex Cap Screw 1/4-28 x 1.00 Gr. 5	42	716-0102	Snap Ring 1.0 Dia
15	736-0570	Flat Washer .865 x 1.145 x .030	43	782-7551	Wheel Dust Cap
16	741-0699	Needle Bearing .438 x .625 x .500	44	717-1534	Gear 14T RH Fwd
17	721-0325	Plug 1/4 x .437	45	717-1533	Gear 14T LH Fwd
18	618-0300	Housing Asm:Upper:(Incl. #16)	46	634-0021A	Whl 8x1.75 Disk Bar Gray Sleeve S
19	721-0329	Seal:Oil:.500x .687 x .094	47	731-0981A	Hubcap:Whl:Radial Spoke Grey
20	741-0673	Flange Bearing .503 x .689 x .792		720-0249	Hubcap:Euro:Grey
21	611-0105	Output Shaft	48	682-0512A	Height Adj. Complete RH
22	736-0520	Flat Washer .504 x .700 x .030	49	682-0511A	Height Adj. Complete LH
23	717-1492	Pinion Shaft 10T.	50	682-0030	Cable Idler Bracket
24	736-0314	Thrust Washer .375 x .70 x .030	51	715-0221	Dowel Pin
25	736-0569	Thrust Washer .388 x .625 x .062	52	736-3013	Flat Washer 1/2 x 1.00 x .063
26	618-0299	Housing:Lwr: (Includes #27)	53	714-0101	Cotter Pin .08 x 1.42
27	741-0672	Flange Bearing .378 x .531 x .370	54	738-1002	Screw, Shoulder .375 x .25AB: 1/4-20
28	710-1276	Hex Screw w/Wash 1/4-20 x .750	55	754-0466	"V"-Belt

Engine Shroud Chart

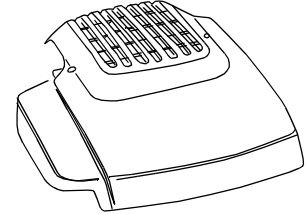
NOTE: This chart shows all the optional engine shrouds for the lawn mowers covered in this manual. To order replacement parts, please refer to the shroud and hardware applicable to your lawn mower unit.



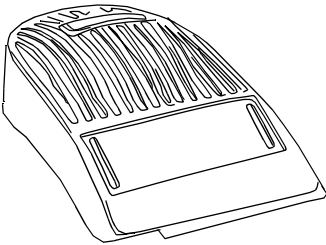
Part No.	Color
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751B281440	Black
751B281443	Bright Red
Hardware: 710-1256 (Screw)	



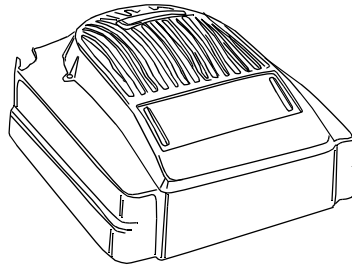
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731-1396A	Black
731-1397A	Gray
Hardware: 710-1256 (Screw)	



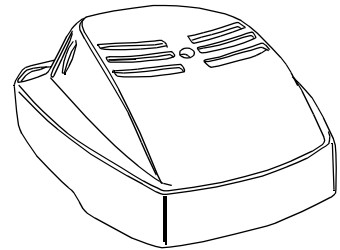
Part No.	Color
731-1402A	Yellow
731-1694	Black
731-1695	Silver
731-1934	Charcoal
Hardware: 710-1256 (Screw)	



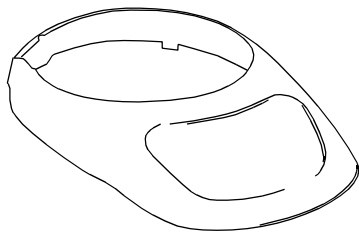
Part No.	Color
731-1585B	Black
Hardware: 710-1274 (Screw)	



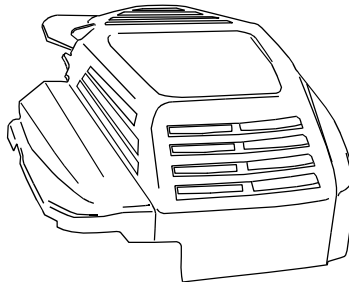
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731-1612A	Red
Hardware: 7510042823 (Screw)	



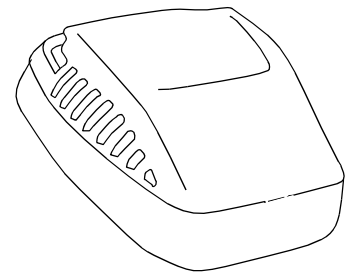
Part No.	Color
7510143208	Black
Hardware: 7510042823 (Screw)	



Part No.	Color
7511681311	Black
7511681911	Red
7511682011	Gray



Part No.	Color
751B281451	Gray
Hardware: 710-1256 (Screw)	



Part No.	Color
751B281476	Black
751B281777	Yellow
Hardware: 710-1237 (Screw)	

MANUFACTURER'S LIMITED WARRANTY FOR:



For TWO YEARS from the date of retail purchase within the United States of America, its possessions and territories, MTD PRODUCTS INC will, at its option, repair or replace, for the original purchaser, free of charge, any part or parts found to be defective in material or workmanship. This warranty covers units which have been operated and maintained in accordance with the operating instructions furnished with the unit, and which have not been subject to misuse, abuse, commercial use, neglect, accident, improper maintenance or alteration.

Normal wear parts or components thereof are subject to separate terms as noted below in the "No Fault Ninety Day Consumer Warranty" clause.

All normal wear part failures will be covered on this product for a period of 90 days regardless of cause. After 90 days, but within the two year period, normal wear parts failures will be covered ONLY IF caused by defects in material or workmanship of OTHER component parts. Normal wear parts are defined as batteries*, belts, blades, blade adapters, grass bags, rider deck wheels, seats, snow thrower skid shoes, shave plates and tires.

How to obtain service: Warranty service is available, with proof of purchase, through your local authorized service dealer. To locate the dealer in your area, please check the yellow pages or contact the Customer Service Department of MTD PRODUCTS INC, P. O. Box 368022, Cleveland, Ohio 44136-9722. Phone 1 (330) 273-4683. The return of a complete unit will not be accepted by the factory unless prior written permission has been extended by the Customer Support Department of MTD PRODUCTS INC.

Transportation charges: Transportation charges for the movement of any power equipment unit or attachment are the responsibility of the purchaser.

Units exported out of the United States: MTD PRODUCTS INC does not extend any warranty for

products sold or exported outside of the United States of America, its possessions and territories, except those sold through MTD PRODUCTS INC's authorized channels of export distribution.

Other Warranties:

1. The engine or component parts thereof carry separate warranties from their manufacturers. Please refer to the applicable manufacturer's warranty on these items.
2. *Batteries are covered by a 90-day replacement warranty.
3. Log splitter pumps, valves and cylinders or component parts thereof are covered by a one year warranty.
4. All other warranties, express or implied, including any implied warranty of merchantability or fitness for a particular purpose, are hereby expressly disclaimed in their entirety.
5. The provisions as set forth in this warranty provide the sole and exclusive remedy of MTD PRODUCTS INC's obligations arising from the sales of its products. MTD PRODUCTS INC will not be liable for incidental or consequential loss or damage.

How state law relates to this warranty: This limited warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Certain disclaimers are not allowed in some states and therefore they may not apply to you under all circumstances.

NOTE: This warranty does not cover routine maintenance items such as lubricants, filters, blade sharpening and tune-ups, or adjustments such as brake adjustments, clutch adjustments or deck adjustments. Nor does this warranty cover normal deterioration of the exterior finish due to use or exposure.